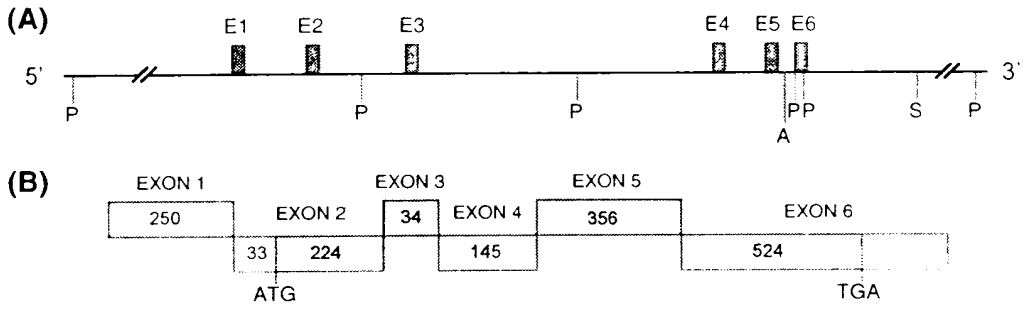
(A)
E1
E2
E3
E4
E5
E6
5'
3'
P
P
P
P
P
A
S
P
(B)
EXON 1
250
EXON 2
33
224
ATG
EXON 3
34
EXON 4
145
EXON 5
356
EXON 6
524
TGA

Figure 1

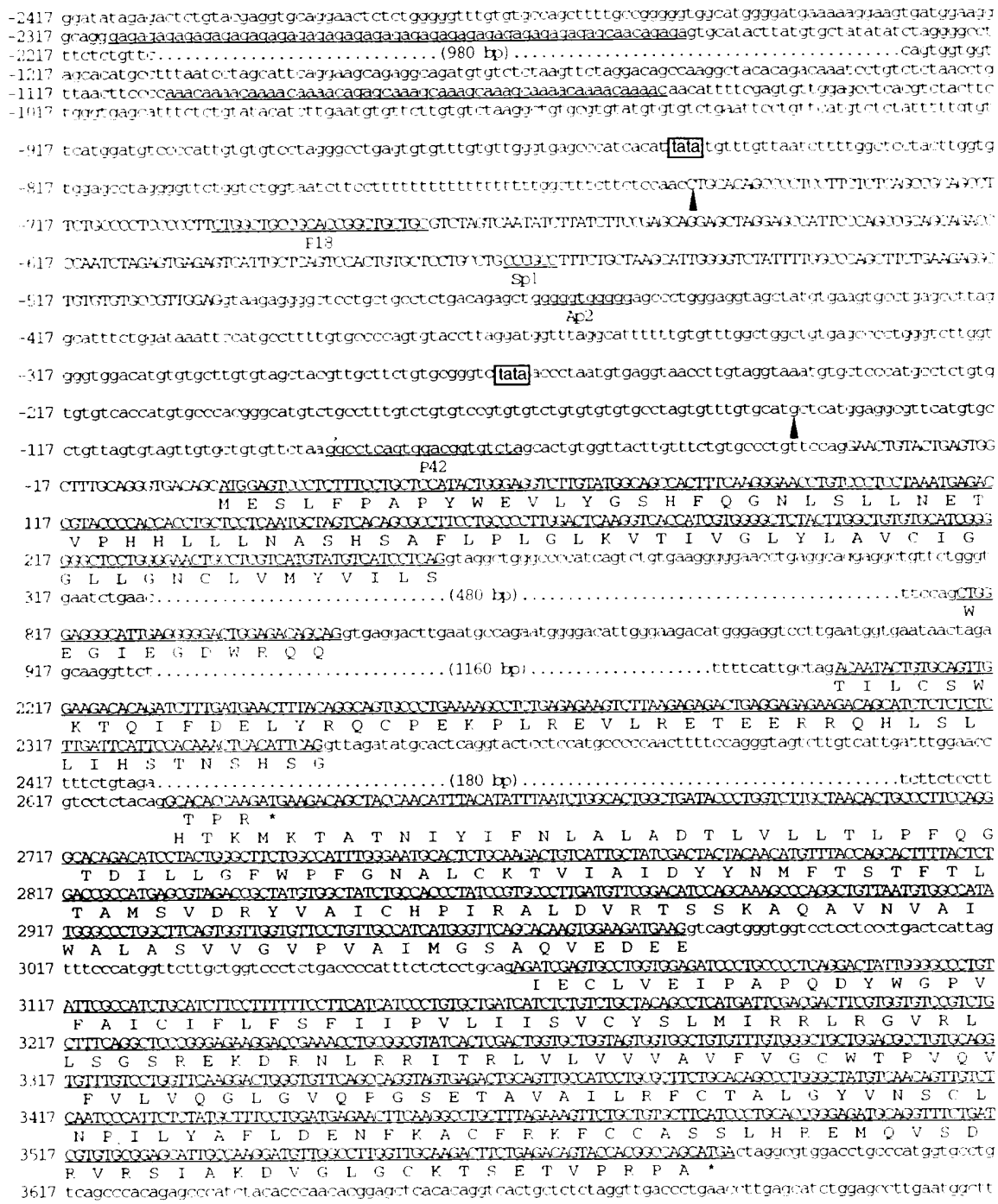

Figure 2

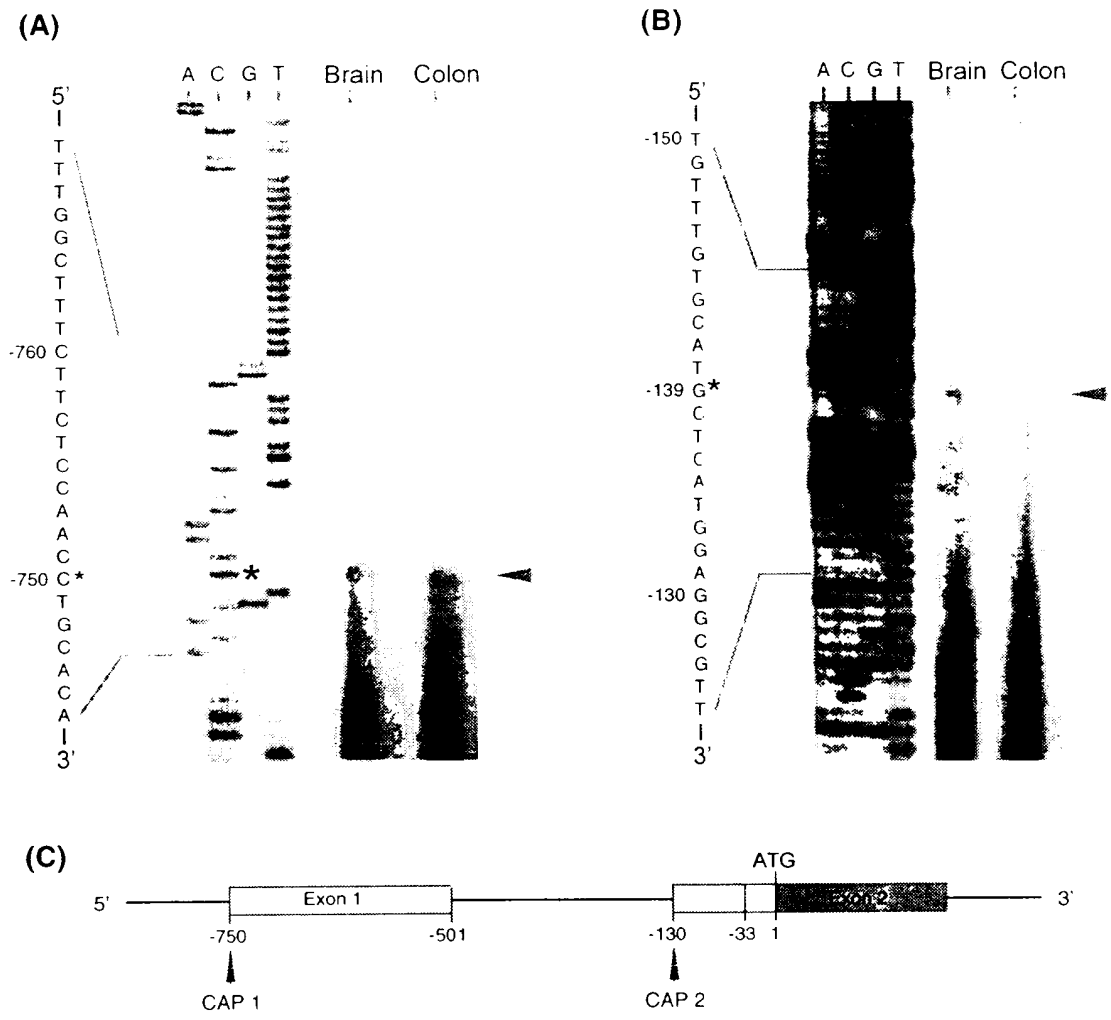
(A)
A C G T
Brain
Colon
5'
-760
-750
3'
(B)
A C G T
Brain
Colon
5'
-150
-139
-130
3'
(C)
ATG
5'
Exon 1
3'
-750
-501
-130
-33
1
CAP 1
CAP 2

Figure 3

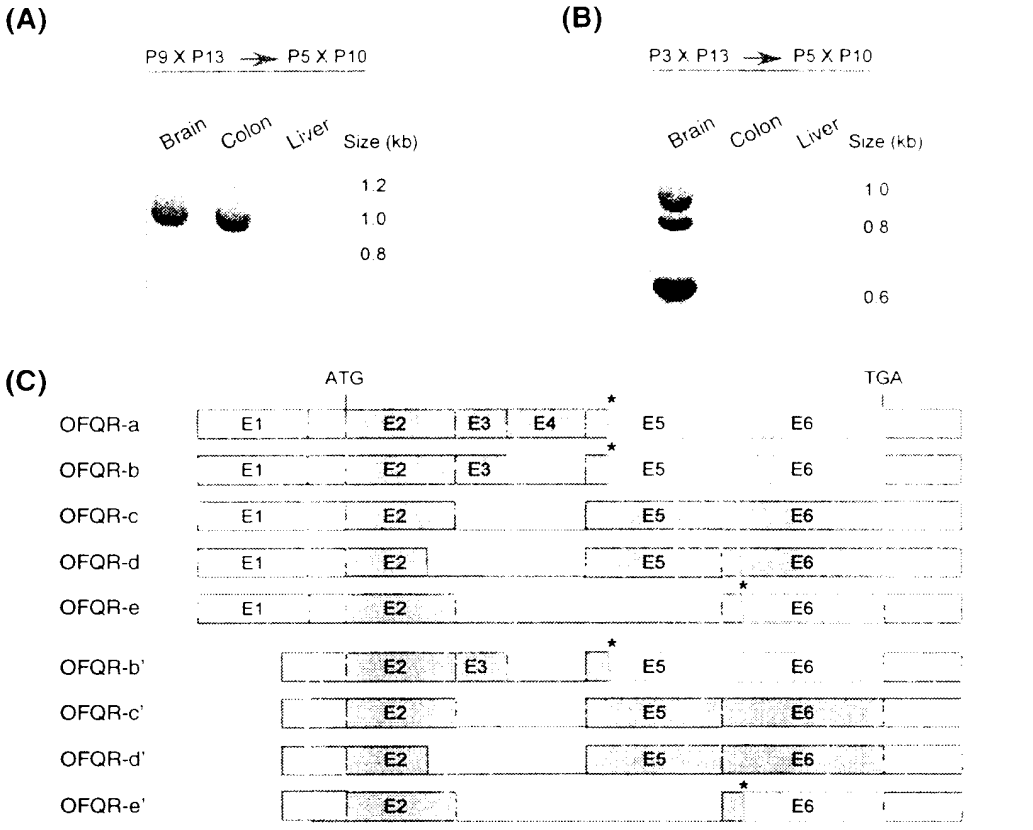
(A)
P9 X P13 → P5 X P10
Brain
Colon
Liver
Size (kb)
1.2
1.0
0.8
(B)
P3 X P13 → P5 X P10
Brain
Colon
Liver
Size (kb)
1.0
0.8
0.6
(C)
ATG
TGA
OFQR-a
OFQR-b
OFQR-c
OFQR-d
OFQR-e
OFQR-b'
OFQR-c'
OFQR-d'
OFQR-e'
E1
E2
E3
E4
E5
E6
(D)
Intron 5
GAAG
AGATC
(a)
(b)
(c)

Figure 4

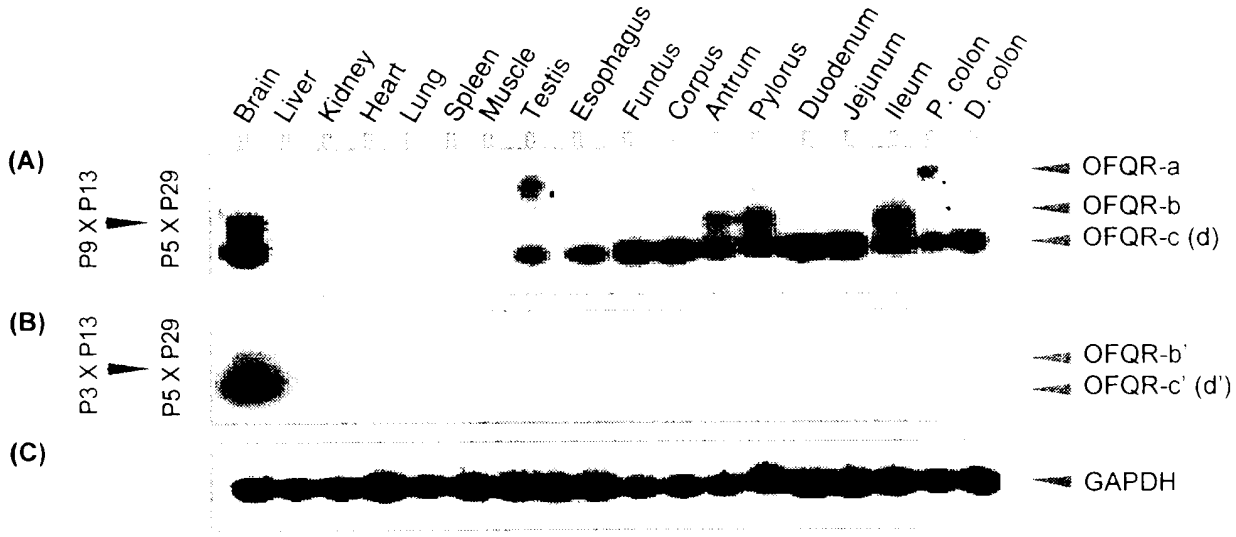
Brain
Liver
Kidney
Heart
Lung
Spleen
Muscle
Testis
Esophagus
Fundus
Corpus
Antrum
Pylorus
Duodenum
Jejunum
Ileum
P. colon
D. colon
(A)
P9 X P13
P5 X P29
OFQR-a
OFQR-b
OFQR-c (d)
(B)
P3 X P13
P5 X P29
OFQR-b'
OFQR-c' (d')
(C)
GAPDH

Figure 5

Figure 6
SEQ ID NO:9

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61    gcccttgaga ctcggagacg cacgtgaaag actactttag ggatatagag actctgtacg
121   aggtgcagga actctctggg ggtttgtgtg ccagcttttg ccgggggtgg catggggatg
181   aaaaaggaag tgatggaagg gcagggagag agagagagag agagagagag agagagagag
241   agagagagag agagagagca acagagagtg catacttatg tgctatatat ctaggggcct
301   ttctctgttc ttgcctgttc ccacactagt tcacatcttg tttgtatctt tctctttgtg
361   cctgaatgca ccttgtgggt tgtatatgtg atccttgtgt gcatctctga gcacatatcc
421   cttgtgtctc tgtatctcta aactgtgcct gtctgggtac ctctttgtat gttctgttta
481   tttgcaggaa tgtgtcctca tgtgtctcct tgagtgtcca tgtgtctccg agaacggaga
541   gacaagtcct tggagacagc ttgggatgct gagtcctggg gtgtctgtct gctctggcct
601   tttctggttg gacaggtatc ctagcaacac ttctgtgagt tgcctagcaa ccaggtcccc
661   atccttagag aaagagcagg gtctggctgt atgtgggagg tctggctctc attcagtcca
721   gacaggaaaa acaaacctat gatttgatga tgactagaga ctcagcatag ggtccctagc
781   ctacatgacc ttaacttatg gttttttttct cagtggactg tgctccccca ccccaccccc
841   cccgtgctgg caaagaagga ggtccctagg agcttagtat ctctgtgttt tctaagatct
901   aattctggga tttggctgtg gtgtagcttc aagtgaccag caaacctggc ttccccttat
961   ccctgccatg ttgacaggca gctccagact tcagaggcgt gatgctttca tttgtgtgag
1021  gataatatgg gtggcagtgg ccatgtgtag tgggggttcc tgggttcagt tttgtcttga
1081  gcttagtgca cattaggtat aaacagcaca tagtagactc agggcagtgc tgggtccaca
1141  gtccagacaa tctcttgttt attcgcaaga aggcctttac atggagaatt agttgggtca
1201  ggatattgct atcactgtgg tactctaccc tattggacac cggctgaggg cagttctggg
1261  taggaaagct agcaaaatct ggtctgtgct cagtggtggt agcacatgcc tttaatccta
1321  gcattcagga agcagaggca gatgtgtctc taagttctag gacagccaag gctacacaga
1381  caaatcctgt ctctaacctg ttaacttccc caaacaaaac aaaacaaaac agagcaaagc
1441  aaagcaaagc aaaacaaaac aaaacaacat tttcgagtgt tggagcctca cgtctacttc
1501  tgggtgagca tttctctgta tacatcttga atgtgttctt gtgtctaagg ctgtgcgtgt
1561  atgtgtgtct gaattcctgt tcatgtctct atttttgtgt tcatggatgt ccccattgtg
1621  tgtcctaggg cctgagtgtg tttgtgttgg gtgagcccat cacattatat gtttgttaat
1681  cttttggctc ctacttggtg tggagcctag gggttctggt ctggtaatct tccttttttt
1741  ttttttttttt tggctttctt ctccaacctg cacagccccc ccttctctca gccgcagcct
1801  tctgcccctc ccccttctgg ctgccgcacc ggctgctgcg tctagtcaat atcttatctt
1861  ccgagcagga gctaggagcc attcccagcc gcagcagacc ccaatctaga gtgagagtca
1921  ttgctcagtc cactgtgctc ctgcctgccc gcctttctgc taagcattgg ggtctatttt
1981  ggcccagctt ctgaagaggc tgtgtgtgcc gttggaggta agaggggctc ctgctgcctc
2041  tgacagagct gggggtgggg gagccctggg aggtagctat gtgaagtgcc tgagccttag
2101  gcatttctgg ataaattcca tgccttttgt gccccagtgt accttaggat ggtttaggca
2161  ttttttgtgt ttggctggct gtgagccccc gggtcttggt gggtggacat gtgtgcttgt
2221  gtagctacgt tgcttctgtg cgggtctata accctaatgt gaggtaacct tgtaggtaaa
2281  tgtgctccca tgcctctgtg tgtgtcacca tgtgcccacg ggcatgtctg cctttgtctg
2341  tgtccgtgtg tctgtgtgtg tgcctagtgt ttgtgcatgc tcatggaggc gttcatgtgc
2401  ctgttagtgt agttgtgctg tgttctaagg cctcagtgga cggtgtctag cactgtggtt
2461  acttgtttct gtgccctgtt ccaggaactg tactgagtgg ctttgcaggg tgacagcatg
2521  gagtccctct ttcctgctcc atactgggag gtcttgtatg gcagccactt tcaagggaac
2581  ctgtccctcc taaatgagac cgtaccccac cacctgctcc tcaatgctag tcacagcgcc
2641  ttcctgcccc ttggactcaa ggtcaccatc gtggggctct acttggctgt gtgcatcggg
2701  gggctcctgg ggaactgcct cgtcatgtat gtcatcctca ggtaggctgg gccccatcag
2761  tctgtgaagg gggaacctga ggcaggaggc tgttctgggt gaatctgaac aagtatggat
2821  tttctgcttg ctccatcaaa tttctttcct ctctgttcaa ggggcatgac caccttgaa
2881  gttcaactcc tgttctgtcc ccatctgtct cagactaggt ggaggcttgg agctgcagat
2941  aaattcatgc catgatgtct gtgtgaataa cctcatgggt acacaggatc ctaggatttc
3001  tcaaacagag gaagaggggc tggtgctggg cctgaagctc ttattcattg acttttggga
```

Figure 6 (cont.)

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3061  tctctattca tggtggatgt ctttagctga gcccatgctc tattggtgct cagaaatatg
3121  aaaatttgga ggactagaaa gaaaggcagc agtactgggc aactgagtca gagtcaacag
3181  tgaggggata ctggagggag cagtatgagg tgcagttctg tggacacaaa agctggacaa
3241  ggagtatgca attggtaaaa tgtgtcacgg caatgatggt ctctgttttt ttccagctgg
3301  gagggcattg agggggactg gagacagcag gtgaggactt gaatgccaga atggggacat
3361  tgggaagaca tgggaggtcc ttgaatggtg aataactaga gcaaggttct tcactgatat
3421  atttcctctt tcaaaaaagat gactctgaag aaagcagtca tggtcccctt gatggtatca
3481  tggtaggtgt ggtggtggtg gagaaagggc agtgcaggtt ctatattctg cctcatcacg
3541  atcctcttag tattcctgag caactgtttt ctccattcgt tagatgggaa atatggatta
3601  cataaccata tataggtgca tgtgcataca cgtgtatata gtataatatt gatatgtgat
3661  tggacagtgt agtaggaaaa gccttccaag tactgacttt cagcagagga tccttgtggg
3721  aaactattct atgatctaag tgttagagga tattcatctt tggcaagaag tgcagcaacc
3781  tgggacagtt tgtgagcctt gccttccctt cttgtcctca gcatttctct cccatattta
3841  ctgcatcagg gcagacaagg agcaccatct tttccagtag catcctcaga gagctagtct
3901  caggaactgc tgtggccaca ctggctctgg aggcaaaaca cggcgtgttt gagttggcat
3961  acgccaggag tcagaaaaac ctgctctgag ccccattttg caccttcgca gttccaagcc
4021  ttataaaagc tacttacgtc ctccgagcct cagcttcctt ctctgcagcc tagggatcta
4081  atagcatttt ttcttttggg gtaaacctca aatgagataa aatctacgtg aagagcttgg
4141  ctcagatatc taccattatc gttgttattg ttgtttattg tagttaaggt ctctaggatt
4201  aatgtctaag aaacagaact taatcccaga ttcccctgata gcaactaaac tatcatggac
4261  tactgttacc tctagttcta tcactaccat accaccataa ccactctaac caccaccacc
4321  accaccatca ctataatcac ccttccctac cgctatcata aacattaatt cattccacta
4381  atatttatca cttataatgt ccctagcatg gttcccggtg cttggataca tcaaacctaa
4441  ctagcacatc tcttgttttc tttattagaa ttaaaaaata aattatgttt atttatgtgt
4501  ctgtgtatgt ctgtctggat gtgtaggtca gaggagaaag ttgggtttct ccttttacca
4561  tgtaagtttc tccttctacc acatgcgtcc tggagataga actcaggttg tcagaattgg
4621  tagtaagtgc ccttaccggc tgagccattt ggctggccca gcattgtctg ttttcattgc
4681  tagacaatac tgtgcagttg gaagacacag atctttgatg aactttacag gcagtgccct
4741  gaaaagcctc tgagagaagt cttaagagag actgaggaga gaagacagca tctctctctc
4801  ttgattcatt ccacaaactc acattcaggt tagatatgca ctcaggtact cctccatgcc
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4981  ccatttaata agcttccttg gagactctgg ggttgagaga ttcaaagacc ataaccctct
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5161  ctggctgata ccctggtctt gctaacactg cccttccagg gcacagacat cctactgggc
5221  ttctggccat ttgggaatgc actctgcaag actgtcattg ctatcgacta ctacaacatg
5281  tttaccagca cttttactct gaccgccatg agcgtagacc gctatgtggc tatctgccac
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5761  gtggtggctg tgtttgtggg ctgctggacg cctgtgcagg tgtttgtcct ggttcaagga
5821  ctgggtgttc agccaggtag tgagactgca gttgccatcc tgcgcttctg cacagccctg
5881  ggctatgtca acagttgtct caatcccatt ctctatgctt tcctggatga gaacttcaag
5941  gcctgcttta gaaagttctg ctgtgcttca tccctgcacc gggagatgca ggtttctgat
6001  cgtgtgcgga gcattgccaa ggatgttggc cttggttgca agacttctga gacagtacca
6061  cggccagcat gactaggcgt ggacctgccc atggtgcctg tcagcccaca gagcccatct
6121  acacccaaca cggagctcac acaggtcact gctcttagg ttgaccctga accttgagca
6181  tctggagcct tgaatggctt ttcttttgga tcaggatgct cagtcctaga ggaagacctt
```

Figure 6 (cont.)

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6241  ttagcaccat gggacaggtc aaagcatcaa ggtggtctcc atggcctctg tcagattaag
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6361  cagtggacat gcctggtgag cccatgtagg tattcatgct tcacttgact cttctctggc
6421  ttctccctgc tgccctggct ctagctgggc tcaacctgag gtattgtagt ggtcatgtag
6481  tcactcttgt gactacatgt tgtgtgctgt tgctctcggc ctttcagtat ttccacagga
6541  ctgctgaaca tacctggtat tgcagtgggg agcattaatt ttcttttaaa gtgagactgg
6601  cccttaagct tggcgttgcc ttggagcgtc ttctacttct gacttcactg atgcagtcag
6661  attacccgag ggtgagcatc agtggtttct tggatggctg ttttctgaag attcttccca
6721  tccagtacat ggagtctatg aagggagtca caattcatct ggtactgcca ctacctgctc
6781  tataatcctg ggctatcttc ttggcaagat gacagtgggg gagacaagac acagagcttc
6841  cctaaggctc tttccctcca aaaccactgt gaactcttat cctacagact gttcggcaag
6901  cactgcttct aggtgtgtgg gaggtaatca ggagaaagct ttgtggcctc tgtaggctgc
6961  tcacaacatg gaggcaccac atgctggtct tgcctgctta gtacaggcag gacagagcag
7021  aatatgctct ctctcgattc tctacaaact ccctcagttc tccagcagag tctcttttac
7081  ttgctatcag aggtcaggag ttgtactgct agaagcatac ttgtagcttg ggaagagtgg
7141  cagtcaggat gtgttctact ctatatccac agtgaccacc tgcttcatat atagggttag
7201  gacatatctg agtaaggcct gagtgtgctg ccaaattgga ggttggtatg agagctgatg
7261  cctaaagtgg ctcatttgca aggactatta tggtttggaa tagcaatggg cactggtcgg
7321  cgaagaagag tctatacctt cgagatctat ttgatggttc acagaagagg ttttgtcaaa
7381  cgcccttcta tgggtcagat atcaaaatac cagcaacgtt ggatagattc tgacctttta
7441  ctgagacctc ggtcagatgg tttcatgtca tgcagagaac ctaggctggt tcctgtgtca
7501  gagagacctg ggcttctggg gaggccaggg ttcttccttt gacacttgtg cgggacgcgt
7561  tagctctaga gttttcttgc taatgctaag aaactttgtg aatttgtata tctttatgta
7621  tttaagcatg caacaagcgt catttccatg catgtagcta gccctgaacc tgcctctggg
7681  gtaatgaagg agtgctcata acaaacactt atccagtgac cagtactgtc catagcctaa
7741  gtgtttctga ctccagctac ataagagtaa cttcctgggt attgatatgc actgggatga
7801  ggcacagaac caggttcatg ggttttaaac ctgttctgcc cttgcaaggg actttaagga
7861  acttcttgat tgatgggagg aaaactagtt cctgggttgc agaggctgct gcctttcctt
7921  ctcccaagac aatgactatc ttttctcccc acactcagga acagtgggta gatgcctttc
7981  ttcacagttt ttctttgtag actcttgctg cttgagcaaa tctaaaagga gttgtggtga
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8221  gagccaaagc ttggttttat acaagtttta atgacattgt ccatttgttt tttgtttttt
8281  agtctagcag tttataatca aaaggtatga atttctaata ggcttaaaag atgcagccca
8341  tgcaggcatg gtggattgga ttctatgaga tt
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Figure 7
SEQ ID NO:10

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1     ctgcacagcc cctccttctc tcagccgcag ccttctgccc ctccccccttc tggctgccgc
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121   gccgcagcag accccaatct agagtgagag tcattgctca gtccactgtg ctcctgcctg
181   cccgcctttc tgctaagcat tggggtctat tttggcccag cttctgaaga ggctgtgtgt
241   gccgttggag gaactgtact gagtggcttt gcagggtgac agcatggagt ccctctttcc
301   tgctccatac tgggaggtct tgtatggcag ccactttcaa gggaacctgt ccctcctaaa
361   tgagaccgta ccccaccacc tgctcctcaa tgctagtcac agcgccttcc tgccccttgg
421   actcaaggtc accatcgtgg ggctctactt ggctgtgtgc atcgggggggc tcctggggaa
481   ctgcctcgtc atgtatgtca tcctcagctg ggagggcatt gagggggact ggagacagca
541   gacaatactg tgcagttgga agacacagat ctttgatgaa ctttacaggc agtgccctga
601   aaagcctctg agagaagtct taagagagac tgaggagaga agacagcatc tctctctctt
661   gattcattcc acaaactcac attcaggcac accaagatga agacagctac caacatttac
721   atatttaatc tggcactggc tgataccctg gtcttgctaa cactgccctt ccagggcaca
781   gacatcctac tgggcttctg gccatttggg aatgcactct gcaagactgt cattgctatc
841   gactactaca acatgtttac cagcactttt actctgaccg ccatgagcgt agaccgctat
901   gtggctatct gccaccctat ccgtgccctt gatgttcgga catccagcaa agcccaggct
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1021  tcagcacaag tggaagatga agagatcgag tgcctggtgg agatccctgc ccctcaggac
1081  tattggggcc ctgtattcgc catctgcatc ttccttttttt ccttcatcat ccctgtgctg
1141  atcatctctg tctgctacag cctcatgatt cgacgacttc gtggtgtccg tctgctttca
1201  ggctcccggg agaaggaccg aaacctgcgg cgtatcactc gactggtgct ggtagtggtg
1261  gctgtgtttg tgggctgctg gacgcctgtg caggtgtttg tcctggttca aggactgggt
1321  gttcagccag gtagtgagac tgcagttgcc atcctgcgct tctgcacagc cctgggctat
1381  gtcaacagtt gtctcaatcc cattctctat gctttcctgg atgagaactt caaggcctgc
1441  tttagaaagt tctgctgtgc ttcatccctg caccgggaga tgcaggtttc tgatcgtgtg
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1561  gcatga
```

Figure 8
SEQ ID NO:11

MESLFPAPYWEVLYGSHFQGNLSLLNETVPHHLLLNASHSAFLPLGLKVTIVGLYLAVCIGGLLGN
CLVMYVILSWEGIEGDWRQQTILCSWKTQIFDELYRQCPEKPLREVLRETEERRQHLSLLIHSTNSH
SGTPR

Figure 9
SEQ ID NO:12

```
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121   gccgcagcag accccaatct agagtgagag tcattgctca gtccactgtg ctcctgcctg
181   cccgcctttc tgctaagcat tggggtctat tttggcccag cttctgaaga ggctgtgtgt
241   gccgttggag gaactgtact gagtggcttt gcagggtgac agcatggagt ccctctttcc
301   tgctccatac tgggaggtct tgtatggcag ccactttcaa gggaacctgt ccctcctaaa
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421   actcaaggtc accatcgtgg ggctctactt ggctgtgtgc atcgggggggc tcctggggaa
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541   ggcacaccaa gatgaagaca gctaccaaca tttacatatt taatctggca ctggctgata
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661   ttgggaatgc actctgcaag actgtcattg ctatcgacta ctacaacatg tttaccagca
721   cttttactct gaccgccatg agcgtagacc gctatgtggc tatctgccac cctatccgtg
781   cccttgatgt tcggacatcc agcaaagccc aggctgttaa tgtggccata tgggccctgg
841   cttcagtggt tggtgttcct gttgccatca tgggttcagc acaagtggaa gatgaagaga
901   tcgagtgcct ggtggagatc cctgccccctc aggactattg gggccctgta ttcgccatct
961   gcatcttcct ttttttcttc atcatccctg tgctgatcat ctctgtctgc tacagcctca
1021  tgattcgacg acttcgtggt gtccgtctgc tttcaggctc ccgggagaag gaccgaaacc
1081  tgcggcgtat cactcgactg gtgctggtag tggtggctgt gtttgtgggc tgctggacgc
1141  ctgtgcaggt gtttgtcctg gttcaaggac tgggtgttca gccaggtagt gagactgcag
1201  ttgccatcct gcgcttctgc acagccctgg gctatgtcaa cagttgtctc aatcccattc
1261  tctatgcttt cctggatgag aacttcaagg cctgctttag aaagttctgc tgtgcttcat
1321  ccctgcaccg ggagatgcag gtttctgatc gtgtgcggag cattgccaag gatgttggcc
1381  ttggttgcaa gacttctgag acagtaccac ggccagcatg a
```

Figure 10
SEQ ID NO:13

MESLFPAPYWEVLYGSHFQGNLSLLNETVPHHLLLNASHSAFLPLGLKVTIVGLYLAVCIGGLLGNCLVMY
VILSWEGIEGDWRQQAHQDEDSYQHLHI

Figure 11
SEQ ID NO:14

```
1     ctgcacagcc cctccttctc tcagccgcag ccttctgccc ctccccttc tggctgccgc
61    accggctgct gcgtctagtc aatatcttat cttccgagca ggagctagga gccattccca
121   gccgcagcag accccaatct agagtgagag tcattgctca gtccactgtg ctcctgcctg
181   cccgcctttc tgctaagcat tggggtctat tttggcccag cttctgaaga ggctgtgtgt
241   gccgttggag gaactgtact gagtggcttt gcagggtgac agcatggagt ccctctttcc
301   tgctccatac tgggaggtct tgtatggcag ccactttcaa gggaacctgt ccctcctaaa
361   tgagaccgta ccccaccacc tgctcctcaa tgctagtcac agcgccttcc tgccccttgg
421   actcaaggtc accatcgtgg ggctctactt ggctgtgtgc atcgggggc tcctggggaa
481   ctgcctcgtc atgtatgtca tcctcaggca caccaagatg aagacagcta ccaacattta
541   catatttaat ctggcactgg ctgataccct ggtcttgcta acactgccct tccagggcac
601   agacatccta ctgggcttct ggccatttgg gaatgcactc tgcaagactg tcattgctat
661   cgactactac aacatgttta ccagcacttt tactctgacc gccatgagcg tagaccgcta
721   tgtggctatc tgccacccta tccgtgccct tgatgttcgg acatccagca aagcccaggc
781   tgttaatgtg gccatatggg ccctggcttc agtggttggt gttcctgttg ccatcatggg
841   ttcagcacaa gtggaagatg aagagatcga gtgcctggtg gagatccctg cccctcagga
901   ctattggggc cctgtattcg ccatctgcat cttccttttt tccttcatca tccctgtgct
961   gatcatctct gtctgctaca gcctcatgat tcgacgactt cgtggtgtcc gtctgctttc
1021  aggctcccgg gagaaggacc gaaacctgcg gcgtatcact cgactggtgc tggtagtggt
1081  ggctgtgttt gtgggctgct ggacgcctgt gcaggtgttt gtcctggttc aaggactggg
1141  tgttcagcca ggtagtgaga ctgcagttgc catcctgcgc ttctgcacag ccctgggcta
1201  tgtcaacagt tgtctcaatc ccattctcta tgctttcctg gatgagaact tcaaggcctg
1261  ctttagaaag ttctgctgtg cttcatccct gcaccgggag atgcaggttt ctgatcgtgt
1321  gcggagcatt gccaaggatg ttggccttgg ttgcaagact tctgagacag taccacggcc
1381  agcatga
```

Figure 12
SEQ ID NO:15

MESLFPAPYWEVLYGSHFQGNLSLLNETVPHHLLLNASHSAFLPLGLKVTIVGLYLAVCIGGLLGNCLVMY
VILRHTKMKTATNIYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMS
VDRYVAICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVEDEEIECLVEIPAPQDYWGPVFA
ICIFLFSFIIPVLIISVCYSLMIRRLRGVRLLSGSREKDRNLRRITRLVLVVVAVFVGCWTPVQVFVLVQG
LGVQPGSETAVAILRFCTALGYVNSCLNPILYAFLDENFKACFRKFCCASSLHREMQVSDRVRSIAKDVGL
GCKTSETVPRPA

Figure 13
SEQ ID NO:16

```
1     ctgcacagcc cctccttctc tcagccgcag ccttctgccc ctccccccttc tggctgccgc
61    accggctgct gcgtctagtc aatatcttat cttccgagca ggagctagga gccattccca
121   gccgcagcag accccaatct agagtgagag tcattgctca gtccactgtg ctcctgcctg
181   cccgcctttc tgctaagcat tggggtctat tttggcccag cttctgaaga ggctgtgtgt
241   gccgttggag gaactgtact gagtggcttt gcagggtgac agcatggagt ccctctttcc
301   tgctccatac tgggaggtct tgtatggcag ccactttcaa gggaacctgt ccctcctaaa
361   tgagaccgta ccccaccacc tgctcctcaa tgctagtcac agcgccttcc tgccccttgg
421   actcaaggtc accatcgtgg ggctctactt ggctgtgtgc atcgggggggc tcctggggaa
481   ctgcctcgtc atgcacacca agatgaagac agctaccaac atttacatat ttaatctggc
541   actggctgat accctggtct tgctaacact gcccttccag ggcacagaca tcctactggg
601   cttctggcca tttgggaatg cactctgcaa gactgtcatt gctatcgact actacaacat
661   gtttaccagc acttttactc tgaccgccat gagcgtagac cgctatgtgg ctatctgcca
721   ccctatccgt gcccttgatg ttcggacatc cagcaaagcc caggctgtta atgtggccat
781   atgggccctg gcttcagtgg ttggtgttcc tgttgccatc atgggttcag cacaagtgga
841   agatgaagag atcgagtgcc tggtggagat ccctgccccc caggactatt ggggccctgt
901   attcgccatc tgcatcttcc ttttttcctt catcatccct gtgctgatca tctctgtctg
961   ctacagcctc atgattcgac gacttcgtgg tgtccgtctg ctttcaggct cccgggagaa
1021  ggaccgaaac ctgcggcgta tcactcgact ggtgctggta gtggtggctg tgtttgtggg
1081  ctgctggacg cctgtgcagg tgtttgtcct ggttcaagga ctgggtgttc agccaggtag
1141  tgagactgca gttgccatcc tgcgcttctg cacagccctg ggctatgtca acagttgtct
1201  caatcccatt ctctatgctt tcctggatga gaacttcaag gcctgcttta gaaagttctg
1261  ctgtgcttca tccctgcacc gggagatgca ggtttctgat cgtgtgcgga gcattgccaa
1321  ggatgttggc cttggttgca agacttctga gacagtacca cggccagcat ga
```

Figure 14
SEQ ID NO:17

MESLFPAPYWEVLYGSHFQGNLSLLNETVPHHLLLNASHSAFLPLGLKVTIVGLYLAVCIGGLLGNCLVMH
TKMKTATNIYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMSVDRYV
AICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVEDEEIECLVEIPAPQDYWGPVFAICIFL
FSFIIPVLIISVCYSLMIRRLRGVRLLSGSREKDRNLRRITRLVLVVVAVFVGCWTPVQVFVLVQGLGVQP
GSETAVAILRFCTALGYVNSCLNPILYAFLDENFKACFRKFCCASSLHREMQVSDRVRSIAKDVGLGCKTS
ETVPRPA

Figure 15
SEQ ID NO:18

```
1     gctcatggag gcgttcatgt gcctgttagt gtagttgtgc tgtgttctaa ggcctcagtg
61    gacggtgtct agcactgtgg ttacttgttt ctgtgccctg ttccaggaac tgtactgagt
121   ggctttgcag ggtgacagca tggagtccct ctttcctgct ccatactggg aggtcttgta
181   tggcagccac tttcaaggga acctgtccct cctaaatgag accgtacccc accacctgct
241   cctcaatgct agtcacagcg ccttcctgcc ccttggactc aaggtcacca tcgtggggct
301   ctacttggct gtgtgcatcg gggggctcct ggggaactgc ctcgtcatgt atgtcatcct
361   cagctgggag ggcattgagg gggactggag acagcaggca caccaagatg aagacagcta
421   ccaacattta catatttaa
```

Figure 16
SEQ ID NO:19

```
1     gctcatggag gcgttcatgt gcctgttagt gtagttgtgc tgtgttctaa ggcctcagtg
61    gacggtgtct agcactgtgg ttacttgttt ctgtgccctg ttccaggaac tgtactgagt
121   ggctttgcag ggtgacagca tggagtccct ctttcctgct ccatactggg aggtcttgta
181   tggcagccac tttcaaggga acctgtccct cctaaatgag accgtacccc accacctgct
241   cctcaatgct agtcacagcg ccttcctgcc ccttggactc aaggtcacca tcgtggggct
301   ctacttggct gtgtgcatcg gggggctcct ggggaactgc ctcgtcatgt atgtcatcct
361   caggcacacc aagatgaaga cagctaccaa catttacata tttaatctgg cactggctga
421   taccctggtc ttgctaacac tgcccttcca gggcacagac atcctactgg gcttctggcc
481   atttgggaat gcactctgca agactgtcat tgctatcgac tactacaaca tgtttaccag
541   cacttttact ctgaccgcca tgagcgtaga ccgctatgtg gctatctgcc accctatccg
601   tgcccttgat gttcggacat ccagcaaagc ccaggctgtt aatgtggcca tatgggccct
661   ggcttcagtg gttggtgttc ctgttgccat catgggttca gcacaagtgg aagatgaaga
721   gatcgagtgc ctggtggaga tccctgcccc tcaggactat tggggccctg tattcgccat
781   ctgcatcttc ctttttttcct tcatcatccc tgtgctgatc atctctgtct gctacagcct
841   catgattcga cgacttcgtg gtgtccgtct gctttcaggc tcccgggaga aggaccgaaa
901   cctgcggcgt atcactcgac tggtgctggt agtggtggct gtgtttgtgg gctgctggac
961   gcctgtgcag gtgtttgtcc tggttcaagg actgggtgtt cagccaggta gtgagactgc
1021  agttgccatc ctgcgcttct gcacagccct gggctatgtc aacagttgtc tcaatcccat
1081  tctctatgct ttcctggatg agaacttcaa ggcctgcttt agaaagttct gctgtgcttc
1141  atccctgcac cgggagatgc aggtttctga tcgtgtgcgg agcattgcca aggatgttgg
1201  ccttggttgc aagacttctg agacagtacc acggccagca tga
```

Figure 17
SEQ ID NO:20

```
1     gctcatggag gcgttcatgt gcctgttagt gtagttgtgc tgtgttctaa ggcctcagtg
61    gacggtgtct agcactgtgg ttacttgttt ctgtgccctg ttccaggaac tgtactgagt
121   ggctttgcag ggtgacagca tggagtccct ctttcctgct ccatactggg aggtcttgta
181   tggcagccac tttcaaggga acctgtccct cctaaatgag accgtacccc accacctgct
241   cctcaatgct agtcacagcg ccttcctgcc ccttggactc aaggtcacca tcgtggggct
301   ctacttggct gtgtgcatcg gggggctcct ggggaactgc ctcgtcatgc acaccaagat
361   gaagacagct accaacattt acatatttaa tctggcactg gctgataccc tggtcttgct
421   aacactgccc ttccagggca cagacatcct actgggcttc tggccatttg ggaatgcact
481   ctgcaagact gtcattgcta tcgactacta caacatgttt accagcactt ttactctgac
541   cgccatgagc gtagaccgct atgtggctat ctgccaccct atccgtgccc ttgatgttcg
601   gacatccagc aaagcccagg ctgttaatgt ggccatatgg gccctggctt cagtggttgg
661   tgttcctgtt gccatcatgg gttcagcaca agtggaagat gaagagatcg agtgcctggt
721   ggagatcccc gcgcctcagg actattgggg ccctgtattc gccatctgca tcttcctttt
781   ttccttcatc atccctgtgc tgatcatctc tgtctgctac agcctcatga ttcgacgact
841   tcgtggtgtc cgtctgcttt caggctcccg ggagaaggac cgaaacctgc ggcgtatcac
901   tcgactggtg ctggtagtgg tggctgtgtt tgtgggctgc tggacgcctg tgcaggtgtt
961   tgtcctggtt caaggactgg gtgttcagcc aggtagtgag actgcagttg ccatcctgcg
1021  cttctgcaca gcccctgggct atgtcaacag ttgtctcaat cccattctct atgctttcct
1081  ggatgagaac ttcaaggcct gctttagaaa gttctgctgt gcttcatccc tgcaccggga
1141  gatgcaggtt tctgatcgtg tgcggagcat tgccaaggat gttggccttg gttgcaagac
1201  ttctgagaca gtaccacggc cagcatga
```

Figure 18
SEQ ID NO:21

```
1     gctcatggag gcgttcatgt gcctgttagt gtagttgtgc tgtgttctaa ggcctcagtg
61    gacggtgtct agcactgtgg ttacttgttt ctgtgccctg ttccaggaac tgtactgagt
121   ggctttgcag ggtgacagca tggagtccct ctttcctgct ccatactggg aggtcttgta
181   tggcagccac tttcaaggga acctgtccct cctaaatgag accgtacccc accacctgct
241   cctcaatgct agtcacagcg cattcctgcc ccttggactc aaggtcacca tcgtggggct
301   ctacttggct gtgtgcatcg gggggctcct ggggaactgc ctcgtcatgt atgtcatcct
361   cagagatcga gtgcctggtg gagatccctg cccctcagga ctattggggc cctgtattcg
421   ccatctgcat cttccttttt tccttcatca tccctgtgct gatcatctct gtctgctaca
481   gcctcatgat tcgacgactt cgtggtgtcc gtctgctttc aggctcccgg gagaaggacc
541   gaaacctgcg gcgtatcact cgactggtgc tggtagtggt ggctgtgttt gtgggctgct
601   ggacgcctgt gcaggtgttt gtcctggttc aaggactggg tgttcagcca ggtagtgaga
661   ctgcagttgc catcctgcgc ttctgcacag ccctgggcta tgtcaacagt tgtctcaatc
721   ccattctcta tgctttcctg gatgagaact tcaaggcctg ctttagaaag ttctgctgtg
781   cttcatccct gcaccgggag atgcaggttt ctgatcgtgt gcggagcatt gccaaggatg
841   ttggccttgg ttgcaagact tctgagacag taccacggcc agcatga
```

Figure 19
SEQ ID NO:22

```
1     cctgctctgc acctgtcgtc gactgccagc cggctgaggg cgggggtctc cacggtggtc
61    ccagctccca aggaggttgc agaagtaccg tacagagtgg atttgcaggg cagtggcatg
121   gagcccctct tccccgcgcc gttctgggag gttatctacg gcagccacct tcagggcaac
181   ctgtccctcc tgagccccaa ccacagtctg ctgccccgc atctgctgct caatgccagc
241   cacggcgcct tcctgccccc cgggctcaag gtcaccatcg tggggctcta cctggccgtg
301   tgtgtcggag ggctcctggg gaactgcctt gtcatgtacg tcatcctcag gcacaccaaa
361   atgaagacag ccaccaatat ttacatcttt aacctggccc tggccgacac tctggtcctg
421   ctgacgctgc ccttccaggg cacggacatc ctcctgggct tctggccgtt tgggaatgcg
481   ctgtgcaaga cagtcattgc cattgactac tacaacatgt tcaccagcac cttcacccta
541   actgccatga gtgtggatcg ctatgtagcc atctgccacc ccatccgtgc cctcgacgtc
601   cgcacgtcca gcaaagccca ggctgtcaat gtggccatct gggccctggc ctctgttgtc
661   ggtgttcccg ttgccatcat gggctcggca caggtcgagg atgaagagat cgagtgcctg
721   gtggagatcc ctacccctca ggattactgg ggccccggtgt ttgccatctg catcttcctc
781   ttctccttca tcgtccccgt gctcgtcatc tctgtctgct acagcctcat gatccggcgg
841   ctccgtggag tccgcctgct ctcgggctcc cgagagaagg accggaacct gcggcgcatc
901   actcggctgg tgctggtggt agtggctgtg ttcgtgggct gctggacgcc tgtccaggtc
961   ttcgtgctgg cccaagggct gggggttcag ccgagcagcg agactgccgt ggccattctg
1021  cgcttctgca cggccctggg ctacgtcaac agctgcctca accccatcct ctacgccttc
1081  ctggatgaga acttcaaggc ctgcttccgc aagttctgct gtgcatctgc cctgcgccgg
1141  gacgtgcagg tgtctgaccg cgtgcgcagc attgccaagg acgtggccct ggcctgcaag
1201  acctctgaga cggtaccgcg gcccgcatga ctaggcgtgg acctgcccat ggtgcctgtc
1261  agcccgcaga gcccatctac gcccaacaca gagctcacac aggtcactgc tctctaggcg
1321  gacacaccct gggccctgag catccagagc ctgggatggg cttttccctg tgggccaggg
1381  atgctcggtc ccagaggagg acctagtgac atcatgggac aggtcaaagc attagggcca
1441  cctccatggc cccagacaga ctaaagctgc cctcctggtg cagggccgag gggacacaag
1501  gacctacctg gaagcagctg acatgctggt ggacggccgt tactggagcc cgtgccccctc
1561  cctccccgtg cttcatgtga ctcttggcct ctctgctgct gcgttggcag aaccctgggt
1621  gggcaggcac ccggaggagg agcagcagct gtgtcatcct gtgccccccа tgtgctgtgt
1681  gctgtttgca tggcagggct ccagctgcct tcagccctgt gacgtctcct cagggcagct
1741  ggacaggctt ggcacggccc gggaagtgca gcaggcagct tttctttggg gtgggacttg
1801  ccctgagctt ggagctgcca cctggaggac ttgcctgttc cgactccacc tgtgcagccg
1861  gggccacccc aggagaaagt gtccaggtgg gggctggcag tccctggctg cagaccccga
1921  gctggccctc ggaccgcacc tctgaaggtt ttctgtgtgc tgcacggtgc aggcctcatc
1981  cctgactgca gcttgactct gggcccaacc cccatttccc ttcaggagac cagcgagagg
2041  ccctggccat ccctccagcg gtgcaatgaa ctatatgctg tggaccgtca acccagccct
2101  gcttctcagt gtggggcagg tgtctcagga cgaaggcgcc gcgtgaccac atgggcagct
2161  ctgttcacaa agtggaggcc tcgttttcct ggtcttgact gctctgtttg ggtgggagaa
2221  gattctctgg gggtccccac atcctcccaa ggctcccctc acagcctctc ctttgcttga
2281  agccagaggt cagtggccgt gctgtgttgc ggggaagctg tgtggaagga gaagctggtg
2341  gccacagcag agtcctgctc tggggacgcc tgcttcattt acaagcctca agatggctct
2401  gtgtagggcc tgagcttgct gcccaacggg aggatggctt cacagcagag ccagcatgag
2461  gggtggggcc tggcagggct tgcttgagcc aaactgcaaa ggctgtggtg gctgtgagga
2521  cactgcgggg gttg
```

Figure 20
SEQ ID NO:23

MESLFPAPYWEVLYGSHFQGNLSLLNETVPHHLLLNASHSAFLPLGLKVTIVGLYLAVCIGGLLGN
CLVMYVILRDRVPGGDPCPSGLLGPCIRHLHLPFFLHHPCADHLCLLQPHDSTTSWCPSAFRLPGE
GPKPAAYHSTGAGSGGCVCGLLDACAGVCPGSRTGCSAR